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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 09/854,316 | 05/11/2001 | Yoon Kean Wong | 25216-0846 | 7831 |

7590 03/08/2004

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| ART UNIT | PAPER NUMBER |
|---|---|
| 2673 | 11 |

DATE MAILED: 03/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 09/854,316 | WONG ET AL. | |
| | Examiner | Art Unit | |
| | Tom V Sheng | 2673 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1,4-27,30-40,42-53 and 55-64* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,4-27,30-40,42-53,55-64* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1, 4-9, 13-16, 27, 30-37, 39-40, 42-53, and 58-62 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fishkin et al. (US Patent 6243075 B1) and Yates (US Patent 6225976 B1).

As for claim 1, Fishkin teaches a computing device (figure 1, device 10, which can be further embodied as figures 3, 4, 5, 9 or 11) comprising:

a display that is deflectable (device 10 has a deformable surface 20 that may include a display 30; column 4, line 66 to column 5, line 10; figure 3 shows device 122 having a display to be depressible on the sides; figure 4 shows device 132 having a display to be squeezable; figure 5 show device 142 having a display to be foldable);

a memory to store a data collection, the data collection corresponding to a plurality of pages of a paginated content, *wherein each page is individually presentable on the display* (inherently by teaching in figure 9 a device 180 that displays a subset of pages from a multi-page document; column 10, lines 33-42);

a processor coupled to the display and the memory, the processor being configured to use data from the collection of data to present one or more pages from the

plurality of pages on the display; (device 10 has a processor 24 that is coupled to display 30 and memory 26 shown in figure 1 and inherently would be used to retrieve and present data from memory; column 6, lines 43-52) and

a sensor device coupled to the processor to measure a deflection of the display, wherein the processor uses the sensor device to determine a deflection value that coincides with the measured deflection of the display (the deformable surface 20 has an underlying deformation sensor mesh 22 for detecting surface deformation and is connected to processor 24; column 4, line 66 to column 5, line 4; further, it shows that the strength of the applied force can be measured and supplied to the processor directly or indirectly; column 6, lines 17-23 and column 8, lines 17-18).

Fishkin does not teach wherein the processor is configured to use the deflection value to determine at least a rate at which *at least portions of individual pages in the plurality of pages are presented in a sequence on the display*.

Yates teaches a remote computer input peripheral (figure 1, peripheral 10) with a pan and scroll bar operation wherein the screen would pan or scroll when one of the arrows 28, 30, 32, or 34 are pressed. Further, the harder an arrow is pressed, the faster the screen pans or scrolls. See column 4, lines 34-39. One of ordinary skill in the art would realize the similarity between displaying a set of pages on device 180 and the scrolling of a plurality of pages of a document on a display/screen.

Therefore, it would have been obvious for one of ordinary skill in the art at the time the invention was made to combine the variable rate display feature of Yates into Fishkin's deformable display device 180 in order to be able to sequentially present

multiple pages on the display in proportion with the deflection of the display, because of the benefit of sequentially viewing multiple pages of a document in natural manner without the use of any button.

As to claims 4, 8, Fishkin's sensor data in analog form reads on claimed analog value (column 6, lines 17-24). The sensor data corresponds to the strength of force applied.

As to claims 5, 6, 7, Fishkin's sensor mesh is underlying the display surface and is thus integrated with the display and overlaid by the display.

As to claims 9, the speed of the panning/scrolling operation of Yates reads on claimed frequency at which the portions of multiple pages are presented on the display.

Claim 13 is read by Fishkin's analog to digital converter (column 6, lines 23-24).

As for claim 14, Yates teaches a digitizer as well as a display.

As for claims 15-16, Fishkin as modified would have the digitizer integrated with the display. Naturally, the sensor device would be underneath the digitizer to avoid interfering with the digitizing function using a stylus or a finger.

As for claims 27, 31, Fishkin teaches a method for displaying information on a computing device assembly (figure 1, device 10, which can be further embodied as figures 3, 4, 5, 9 or 11), the method comprising:

measuring a deflection of a surface (device 10 has a deformable surface 20 that may include a display 30; column 4, line 66 to column 5, line 10; figure 3 shows device 122 having a display to be depressible on the sides; figure 4 shows device 132 having a display to be squeezable; figure 5 shows a display to be foldable) of the computing

device assembly (the deformable surface 20 has an underlying deformation sensor mesh 22 for detecting surface deformation and is connected to processor 24; column 4, line 66 to column 5, line 4; further, it shows that the strength of the applied force can be measured and supplied to the processor directly or indirectly; column 6, lines 17-23 and column 8, lines 17-18),

accessing a data collection, the data collection being segmented into a plurality of pages (inherently by teaching in figure 9 a device 180 that displays a subset of pages from a multi-page document; column 10, lines 33-42).

Fishkin does not teach that in response to measuring the deflation, selecting multiple pages from the plurality of pages using the measured deflection; then *displaying at least portions of multiple pages sequentially over an interval of time at a rate determined at least in part by the deflection*; and wherein measuring the deflection of the surface includes measuring a deflection of a display for the computing device.

Fishkin further teaches in one embodiment (figure 3) that upon depressing a particular side of a device, the currently selected object 125 would move away from that side to a new position 126 (column 8, line 64 to column 9, line 6). Moreover, since the deformation sensor mesh 22 is located underlying the deformable surface 20, it is inherently understood that as a side is depressed, a deformation occurs with the sensor and the (display) surface. And if the deformation were not apparent, the deformation of the display that occurs when the device is squeezed would be easily noticed (figure 4).

Yates teaches a remote computer input peripheral (figure 1, peripheral 10) with a pan and scroll bar operation wherein the screen would pan or scroll when one of the

arrows 28, 30, 32, or 34 are pressed. Further, the harder an arrow is pressed, the faster the screen pans or scrolls. See column 4, lines 34-39. Being faster or slower represents a rate that corresponds with a time interval. One of ordinary skill in the art would realize the similarity between displaying a set of pages on device 180 and the scrolling of a plurality of pages of a document on a display/screen.

Therefore, it would have been obvious for one of ordinary skill in the art at the time the invention was made to combine the variable rate display feature of Yates into Fishkin's deformable display device 180 in order to be able to sequentially present multiple pages on the display, in page by page or in scrolling fashion, in proportion with the deflection of the display, because of the benefit of sequentially viewing multiple pages of a document in natural manner without the use of any button.

As to claims 30 and 32, the speed of the panning/scrolling operation of Yates reads on claimed frequency at which the portions of multiple pages are presented on the display.

Claim 33 corresponds to claims 27, 30, 32 and the additional limitation *wherein displaying at least portions of the multiple pages includes displaying portions of selected pages that are separated by other pages in the predetermined order.* Analyses of rejections of claims 27, 30, and 32 apply. Further, Fishkin teaches two pages mode (figure 11, column 10, lines 33-42) of displaying in a two-page format reading on claimed *portions of selected pages.*

As for claims 34-35, sequential display is always in a predetermined order such as increasing or decreasing.

As to claims 36, Fishkin's sensor data in analog form reads on claimed analog value (column 6, lines 17-24). The sensor data corresponds to the strength of force applied.

Claim 37, 47-48, 62 are rejected per analysis of claim 1.

Claim 39 is a method claim readable on elements of claim 27 except using a memory to identify data representing a plurality of pages. The analysis of claim 27 is applicable. Further, Fishkin teaches a memory 26 as shown in figure 1 and inherently would be used to store the plurality of pages; column 6, lines 43-52.

As for claims 40 and 42, Fishkin/Yates teaches selection of multiple pages and in a sequential (predetermined) order as analyzed in claim 27.

Claims 43-46 are rejected per analyses of claims 27, 30-32. Whether a deflection causes one page to present on the display or multiple pages is simply associated with the degree/measure of deflection. Moreover, since rate is understood as number of pages over a period of time, it is not different from frequency.

As to claims 49 and 53, Fishkin's sensor data in analog form reads on claimed analog value (column 6, lines 17-24). The sensor data corresponds to the strength of force applied.

As to claims 50, 51, 52, Fishkin's sensor mesh is underlying the display surface and is thus integrated with the display and overlaid by the display.

Claim 58 is read by Fishkin's analog to digital converter (column 6, lines 23-24).

As for claim 59, Yates teaches a digitizer as well as a display.

As for claims 60-61, Fishkin as modified would have the digitizer integrated with the display. Naturally, the sensor device would be underneath the digitizer to avoid interfering with the digitizing function using a stylus or a finger.

3. Claims 10-12, 17-26, 38, 55-57, and 63-64 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fishkin and Yates as applied to claim 1 above, and further in view of Sawada et al. (US Patent 6441811 B1).

As for claims 10 and 55, Fishkin as modified by Yates teaches displaying sequentially a plurality of pages.

However, Fishkin as modified does not teach displaying *at least portions of a current page and a subsequent page*, wherein the subsequent page having a proximity to the current page in a pre-determined order of the data collection, and wherein the analog value determines the subsequent page by determining the proximity of the subsequent page to the current page, the proximity being based at least in part by the deflection value.

Sawada teaches page turning, wherein pages are turned in a way mimicking the actual turning of a book. As shown in figure 2, at time T0, display is at pages 1 and 2, at time Tp, display is at pages 1 and 4, and at time Tq, display is completed at pages 3 and 4. Note Sawada further teaches that a number of pages can be skipped by recognizing a gesture of a pen such as writing a bigger specific character. Even though Sawada's display is showing two pages at a time, one of ordinary skill in the art would recognize a similar application where portion of a current page and of a subsequent

page be displayed at time Tp. For details, see figures 2 and 11 and column 6, line 59 to column 7, line 26, and column 8, line 59 to column 9, line 12.

Therefore, it would have been obvious for one of ordinary skill in the art at the time the invention was made to incorporate Sawada's page-turning idea into Fishkin/Yates because of the benefit of a natural flexible turning of pages as indicated by Sawada.

Claims 11-12, 56-57, and 63-64 are read by the time of deformation and corresponding sensor data.

Claims 17-26 are method claims corresponding to apparatus claims 1, 4-16 and accordingly rejected. The discrete elements of display are generally known as pixels in a matrix display device such as LCD, plasma display, or electrophoretic display. As taught by Sawada, only certain area of the display can be used for claimed sequential display of pages.

Claim 38 is rejected per analyses of claims 1 and 10. Furthermore, Fishkin's transceiver 34 or serial line 36 reads on claimed communication port.

### *Response to Arguments*

4. Applicant's arguments filed on 12/16/03 have been fully considered but they are not persuasive.

As for claim 1, applicant argues that no teachings on deflection of a display being used to set a rate at which portions of individual pages are presented. The examiner disagrees because Fishkin teaches measuring deformation of display and Yates

teaches using pressure on arrows to adjust speed (rate) of scrolling/panning. Fishkin further teaches in an embodiment (figure 9) of displaying a plurality of pages sequentially (inherent). See rejections reciting this embodiment.

Claims 17, 27, 37, 39, 43, 47, 62 are addressed for similar reason.

As for claim 38, applicant argues that there's no analog input device coupled to the processor via the communication port. The examiner disagrees because Fishkin's underlying deformation sensor mesh 22 reads on the analog input device and Fishkin's transceiver 34 or serial line 36 reads on claimed communication port.

## *Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tom V Sheng whose telephone number is (703) 305-6708. The examiner can normally be reached on 8:30am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached on (703) 305-4938. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tom Sheng
March 7, 2004

KENT CHANG
PRIMARY EXAMINER